

# Section 10

## SPECIAL PROGRAMMING CONSIDERATIONS

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### 10.1 GENERAL

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This section explains the special considerations which the System Administrator should take into account for optimal programming of:

- Automated Attendant Dial By Name
- Automated Interview
- Automated Attendant External Call Forwarding
- System Dial By Name.

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### 10.2 AUTOMATED ATTENDANT DIAL BY NAME

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#### 10.2.1 Description

The Automated Attendant Dial By Name feature allows an external caller to reach an extension by dialing the name of the extension owner instead of the extension number. More precisely, the caller dials the prefix of the first or last name of the person sought. The length of this prefix can be from one to four digits as defined in the SYSTEMS PARAMETER Screen of IMAGEN programming.

You can define, per DN, up to 16 sets of first and last names, and up to 256 name pairs for the system as a whole.

The caller is able to dial the extension by dialing **any** prefix of a name associated with the extension.

For example, if you associate with directory number 428, belonging to DANNY HENSON, the names DANNy and HENSON, whenever an external caller wants to use this feature to dial Danny, she has three options:

- To dial via the regular automated attendant to extension 428 by dialing:  
**[1][4][2][8];**

- To dial via Automated Attendant Dial By Name to DANNY, by dialing the preprogrammed digit to enter to the DIAL BY NAME Menu, and then any 1 to 4 digits representation of the name DANNy, i.e. **[3]**, **[3][2]**, **[3][2][6]** or **[3][2][6][6]** followed by **[#]**;
- To dial via Automated Attendant Dial By Name to HENSon, by dialing:  
**[3]** and any 1 to 4 digit representation of the name HENSon,  
i.e. **[4]**, **[4][3]**, **[4][3][6]** or **[4][3][6][7]** followed by **[#]**.

Thus an external caller who knows a subscriber by either a first name or last name may ring the destination extension without needing to know the corresponding directory number.

## 10 .2 .2 Operation

The Automated Attendant Dial By Name feature is accessible whenever the regular automated attendant feature is accessed, i.e. from the MAIN Menu, BUSY Menu, NO ANSWER Menu and the DIRECTORY MESSAGES Menu. When a caller dials **[3]** from one of these menus, she enters the Automated Attendant Dial By Name feature and hears the following opening message:

Dial the first \_\_\_\_ (one, two, three or four, as programmed) letters of the subscriber's name.  
For the letter Q dial 7, for Z dial 9. To terminate dialing dial #. Dial 0 for the operator, \* for the previous menu.

When a caller dials a name, there are two possible results:

- She dials an unambiguous name;
- She dials an ambiguous name.

The Automated Attendant Dial By Name feature begins call data processing when one of three situations occur:

- Number entry reaches the name prefix maximal length of digits definition as defined on the SYSTEM PARAMETERS Screen;
- An interdigit timeout occurs.
- The **[#]** key is pressed.

***Dialing An Unambiguous Name***

**CALLER:** Wants to speak with Danny, does not remember Danny's directory number, and so dials **[3]** and, using Automated Attendant Dial By Name, DAN.

**IMAGEN:** Consults its Automated Attendant Dial By Name database and finds that 326, corresponding to DAN, is the prefix of exactly one name and is linked to directory number 428. IMAGEN transfers the caller to extension 428.

If programmed, the system confirms:  
*Your call is being transferred to Danny.*

Otherwise, the caller hears:  
*One moment please.*

***Dialing An Ambiguous Name***

**CALLER:** Wants to speak with Bruce Hill, does not remember his directory number, and so dials the preprogrammed digit for Automated Attendant Dial By Name and then, BR;

**IMAGEN:** Consults its database, finds that 27, corresponding to BR, is a prefix of four names, since there are entries for BROWn BOB, BROWn CHARley, BRONstein ALEXander and HILL BRUCe in the data base, each associated with a different directory number.

It plays the following message:  
*There are some subscribers with that name! BOB BROWN of extension 455. Dial 1 to transfer to the played extension, 2 to play the next name, 0 for the operator, \* to return to the previous menu.*

**CALLER:** dials **[2]** ;

**IMAGEN:** Plays:  
*BRUCE HILL of extension 777. Dial 1 to transfer to the played extension, 2 to play the next name, etc.*

The name message is always played. The extension number is optionally played, depending on programming in the SYSTEM PARAMETERS Screen of IMAGEN.

IMAGEN (cont.) If there is no name recorded for the destination mailbox, then the feature plays the mailbox number regardless of how the Announce DN during Auto Att D.B.N. parameter is set in system programming.

CALLER: Dials **[1]** for BRUCE HILL;

IMAGEN: Plays:  
*One moment please...*  
 and transfers the call to extension 777, BRUCE's extension, just as if the caller had dialed **[1][7][7][7]**.  
 If the caller hears all the ambiguous names, by continuously pressing the digit 2, and there are no more names in the matching list, IMAGEN then plays the message *There are no more names in the matching list*.  
 If there is no match at all in the data base, the caller hears the message: *The name you have dialed is not defined*, and IMAGEN replays the opening message.

### 10 .2 .3 Feature notes

The characters Q and Z do not appear on the telephone keypad. The feature associates Q with 7 and Z with 9, so as not to exclude subscribers with rare names, for example Zachary Quayle.

In case the name is an ambiguous match, and the ambiguity is between names associated with the same DN, only one of the names will be selected. Plan your Dial By Name programming to minimize or eliminate this possibility.

The Automated Attendant Dial By Name feature operates in the same manner for all tenants. If IMAGEN is serving more than one tenant, there must be a common Dial By Name directory.

Pressing **[0]** while dialing of a name (other than as the first digit), does not transfer the caller to the operator, but plays instead the message: *The name you have dialed is not defined*.

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## 10 .3 AUTOMATED INTERVIEWS

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### 10 .3 .1 Description

The Automated Interview feature involves the Automated Attendant asking a series of pre-recorded questions to a caller and recording the answers. There are a maximum of eight interview questions, followed by a ninth question which is a

closing question to the caller. After playing the closing question, IMAGEN disconnects the caller without waiting for any answer (as per system default programming). Up to nine different interviews can be programmed.

### 10.3.2 Operation

#### *The recording process*

You may program certain trunks as interview trunks in configuration programming. Whenever the system receives a call on the trunk, it begins the automated interview procedure.

For each interview, IMAGEN links together all the answers into one question file, which is stored in preprogrammed interview mailboxes. Up to 16 interview mailboxes may be programmed.

Every interview question has a number (from 1 to 9) and is recorded separately. You record questions using Option 4 of the Record System Greetings Questions option of the SYSTEM ADMINISTRATION Menu, from any DIGITAL family of systems or DTMF telephone.

IMAGEN plays all recorded interview questions, in their given order, during the course of an interview. Any gaps between recorded interview questions are skipped. For example, if only questions 1, 2 and 5 are recorded, only these three questions are asked and questions 3 and 4 are skipped.

The automated interview feature adds a beep after every answer in order to distinguish between the answers. If the caller skips an answer, only the beep will be heard.

The caller terminates her answer to any of the interview questions by pressing **[#]**. If an interview question is not answered for at least five seconds, the same question is asked again.

If the question is still not answered, IMAGEN disconnects the caller and stops the interview.

**Recording interview questions**

The recording process is as follows:

- RECORDER: Dials **[4]** from the SYSTEM ADMINISTRATION Menu;
- SYSTEM: The SYSTEM GREETING menu is played
- RECORDER: Dials **[4]** from the SYSTEM GREETING menu.
- SYSTEM: Instructs to select the number of the desired interview to be edited/recorded [1-9].
- RECORDER: Selects the desired interview number [1-9].
- SYSTEM: Plays an edit menu: *Play 1 for edit, 9 to re-record all.*
- RECORDER: Dials **[1]** to edit one or more interview questions but not all of them, or dials **[9]** to delete all the interview questions and record new ones. Also dial **[9]** if recording questions for the first time.
- SYSTEM: Plays the INTERVIEW QUESTIONS Menu message: *Please select a message number from 1 to 9, or \* to exit*, and transfers to the INTERVIEW Menu.
- RECORDER: Dials **[1]** to record the first interview question.

The recording process proceeds accordingly as for other message recording, the only difference being that control returns to the INTERVIEW QUESTIONS Menu when the recording of each question is over.

**NOTE**

As question 9 marks the end of the interview, it would perhaps be more appropriate to record a concluding message here rather than a question. In this case, you would record the final interview question as question number 8.

**Playing the interview answers**

The person responsible for gathering interview responses can hear all the responses by entering the dedicated interview mail box. IMAGEN plays back the answers in the same order that they were recorded. After every answer there will be a beep, and if there was no recorded answer for a interview question that was asked, only the beep will be heard for that answer.

### 10.3.3 Programming

You must program certain Application Generator parameters to implement the following Interview feature aspects:

- IMAGEN access from interview:  
The system can be programmed to allow the caller to perform other activities after the interview process.
- Interview access from IMAGEN:  
The interview process can be started from within IMAGEN (by dialing a programmed digit from IMAGEN).
- Interview timeout:  
The maximum time (in seconds) allowed for a single interview answer can be defined. (Programmed in the SYSTEM PARAMETERS screen. See [Section 7.7](#), above).

For Application Generator programming details, see IMAGEN Application Generator User manual (Cat. No. 76-110-0560/H).

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## 10.4 SYSTEM DIAL BY NAME

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### 10.4.1 Description

System Dial By Name (SDBN) is an optional DIGITAL KEY BX and DIGITAL 400 system feature supported through IMAGEN. It enables any internal caller to reach a desired party by entering the first of up to six letters of her last name. If the DN belongs to a department, the caller enters the first letters of the department name.

SDBN is somewhat similar to the Automated Attendant Dial By Name feature serving external callers, described in [Section 10.2](#), above. SDBN, however, is a much more extensive feature, as described both below and in the separate Electronic Business Card Installation and Programming manual.

The internal caller enters the name of the desired party using the telephone dialpad buttons, according to the standard letter-number arrangement (ABC=2, DEF=3, etc., with Q being linked to 7 and Z to 9).

As System Administrator, you must build directories of telephone numbers which enable internal callers to use the SDBN feature. You do this via the separate SDBN Programming program, which runs under Windows®. You then copy these directories to the IMAGEN-PC hard disk. Part of your responsibility in setting up

directories may be to ensure the maximum possible number of unique matches for all system users.

Note that the contents of a directory are not limited to telephone numbers, although this would be the typical implementation. As another application, for example, you could establish an online help directory for your organization.

SDBN requires the use of a protection plug, provided with the software and attached to the parallel port at the back of the IMAGEN-PC computer.

## 10 .4 .2 Operation

Each DIGITAL family of systems station user can utilize SDBN in one of two ways:

- **DIAL BY NAME**  
A user dials the digits corresponding to a name prefix, and finishes dialing by pressing [#]. In cases where there are more than one directory, she has to indicate the directory number in which the prefix is located as well. If the dialed prefix is found to have a unique match with a specific DN, the KSU dials the corresponding telephone number regardless of the user station type. If there is not a unique match, then the system gives a retry tone, unless the station is EX2 type;
- **VIEWING**  
A user with an EX2 expanded display station is able to view IMAGEN directory entries on her station's display, and then have the system dial in accordance with her instructions.

You can use the System Dial By Name feature from all DIGITAL family of systems stations. However, when it is accessed from a non-EX2 station, the feature can only process a unique match directory name.

A unique match occurs when the name dialed by the user is the prefix of one and only one name in the designated telephone directory. Remember that the numbers spelling the name are dialed from the telephone dialpad, and thus any number can represent numerous prefixes.

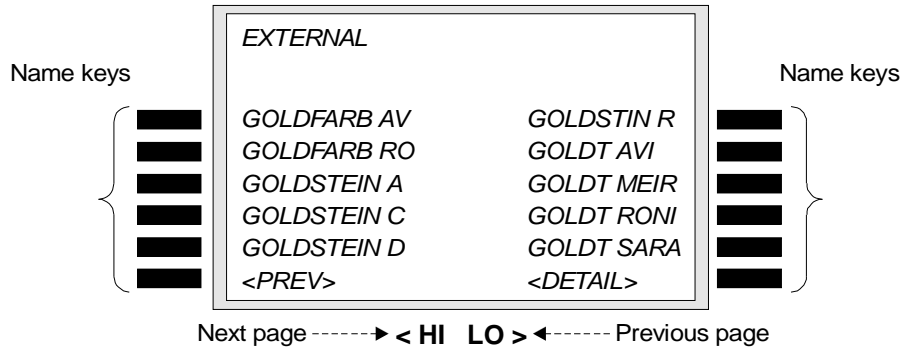
Also remember that the user accesses each directory separately and that, if there are several SDBN directories, she must access the correct one to find the desired match. Setting up directories appropriately can help to ensure unique matches for almost all users.



If the match within the directory is not unique, the system sends a retry tone to the user of a non-EX2 station, and she must complete the call a different way.

At an EX2 station, however, the station displays a data screen containing the non-unique matching names. Or, if there are no name matches, it displays the appropriate page of entries where the name would have been had it existed.

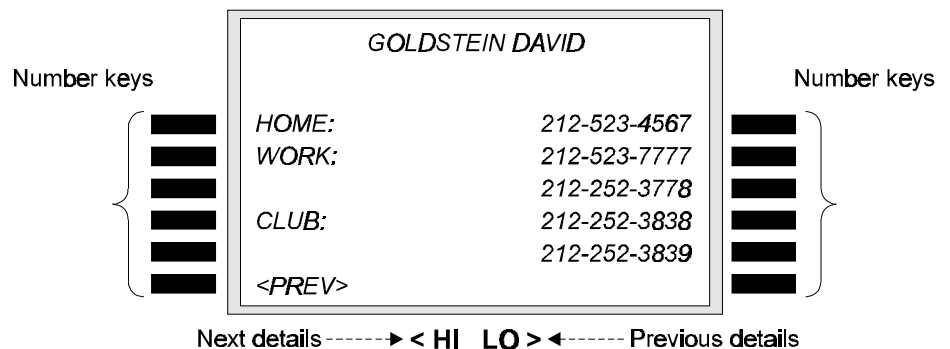
If, for example, a user attempting to contact a party named DAVID GOLDSTEIN (belonging to the directory titled 'EXTERNAL'), and enters 465 for GOL, the listing as shown in Figure 10-1 would appear:



**Figure 10-1 SDBN Directory Name display**

She can page up or down through the directory by pressing down the [**< HI LO >**] button to the right or left until the desired name is located. She can also have the system dial any name displayed by pressing the softkey next to the name.

Pressing the **{DETAIL}** softkey and then a name softkey instructs the program to display the Electronic Business Card display, shown in Figure 10-2. From this display the user can read the information lines for each person in the directory and, if the line includes a phone number, have the system dial it by pressing the adjacent number key.



**Figure 10-2 Electronic Business Card display**

For additional information relating to the operation of SDBN and the View Directories feature on the EX2 station, see the Electronic Business Card Installation and Programming manual or the appropriate User Guides.

### 10 .4 .3 Programming

You program the SDBN directories via a special program, SDBN Programming. This program runs under the Windows<sup>®</sup> operating system on a separate computer. After you create them, you need to copy these directories over to the IMAGEN PC hard disk, to the -DBN subdirectory within the IMAGEN directory.

You must turn off IMAGEN in order to copy over the System Dial By Name directories you have created.

Refer to the Electronic Business Card Installation and Programming manual for a complete description of the programming process and the various parameters involved.

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## 10 .5 AUTOMATED ATTENDANT EXTERNAL CALL FORWARD

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### 10 .5 .1 Description

The Automated attendant External call forward feature enables calls from outside the DIGITAL system to be forwarded via the automated attendant to an external destination.

Therefore, an IMAGEN mailbox subscriber with no internal extension can receive outside calls on an external number. Subscribers that do maintain internal extensions can also use this feature for diverting calls (to either an external or internal location, or to their mailbox) when their extension is busy or goes unanswered.

The subscriber's external number is defined as one of the Mailbox Follow me numbers, as shown in the MAILBOX PARAMETERS Screen (**Figure 7-10**). If the mailbox has been programmed accordingly (the Automated Attendant Service parameter is set to 'External'; the external number is a non-pager number), then all outside calls will be forwarded by IMAGEN to the subscriber's external destination.

External Follow me numbers can also be programmed by a subscriber from the telephone. Refer to the IMAGEN User guides for details.

If there is no answer at the external destination as well, the automated attendant informs the calling party accordingly, and

transfers him to the subscriber's mailbox where he may leave a message.

The External call forwarding feature is activated whether the outside caller dials the extension numerically or accesses it by using the Dial By Name feature, Single digit dialing or Caller-ID routing.

## 10.5.2 Operation

Automated attendant External call forwarding is activated automatically by IMAGEN in accordance with programming in the MAILBOX AUTOMATED ATTENDANT PARAMETERS Screen, as shown in [Figure 7-10a](#).

### **Activating External Call Forward**

SUBSCRIBER:	'Nathan Smith' maintains mailbox 252, but has no internal extension. His mailbox is programmed to forward all calls to an external telephone number.
CALLER:	Dials via the automated attendant to mailbox 252, thereby triggering the External call forward instruction.
IMAGEN:	Plays the following message: <i>Thank you. One moment please,</i> places the caller on hold, and dials the external destination number.  When the call is answered, the system announces to the destination subscriber: <i>This is an automated call-transfer for 'Nathan'. Please dial '2' if you wish to answer the call, '3' if the person is unknown, or '4' if the person is unavailable.</i> The message is repeated up to three times.
SUBSCRIBER:	Upon hearing the above announcement, dials '2'.
IMAGEN:	Instructs the DIGITAL system to connect both external lines, and disconnects IMAGEN from the call.
CALLER:	Commences conversation with Nathan.

## 10.5.3 Feature Notes

Auto attendant External call forwarding will not forward calls to a pre-programmed pager unit destination number; nor can the user 'camp on' to an externally forwarded destination.

The IMAGEN port that is utilized for Auto attendant/Dial By Name dialing is retained for call forward dialing; the feature does not require seizure of an additional port.

As the process of forwarding a call to an external line may take time, the system hold time programmed in the DIGITAL system should be set to a maximum of 50 seconds. This provides the system with time to react in case there is no answer at the external destination. Once the receiving party presses '2' to accept the call, however, the connection is immediate.

If the incoming call enters on a PABX or Centrex line, and the external forwarding destination is also a PABX or Centrex extension, IMAGEN uses the same incoming line to transfer the call to the external location. In this case, the seizure of an additional outside line is not necessary, and invoking the system's Trunk patch feature is not required.

As the External call forward feature allows for calls to be forwarded to long distance destinations, you should be alert to the possibility of toll abuse by unscrupulous users.